

Complete Summary

GUIDELINE TITLE

Meningococcal disease prevention and control strategies for practice-based physicians (Addendum: recommendations for college students).

BIBLIOGRAPHIC SOURCE(S)

American Academy of Pediatrics, Committee on Infectious Diseases.
Meningococcal disease prevention and control strategies for practice-based physicians (Addendum: recommendations for college students). Pediatrics 2000 Dec; 106(6): 1500-4. [26 references]

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SCOPE

DISEASE/CONDITION(S)

Meningococcal disease

GUIDELINE CATEGORY

Prevention

CLINICAL SPECIALTY

Family Practice
 Internal Medicine
 Pediatrics
 Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To encourage health care professionals to inform college students and their parents at routine pre-matriculation visits and during college matriculation of the risk of meningococcal disease and the potential benefits of immunization
- To encourage physicians and other health care professionals make vaccines available to those requesting immunization
- To encourage college and university health services to facilitate implementation of educational programs concerning meningococcal disease and availability of immunization services

TARGET POPULATION

College students, particularly college freshman living in dormitories, and those who will be matriculating within the following year and who may live in dormitories

INTERVENTIONS AND PRACTICES CONSIDERED

1. Counseling of students entering college and their parents on the risks of meningococcal disease and the potential benefits and limitations of vaccination
2. Immunization with the quadrivalent meningococcal A, C, Y and W-135 polysaccharide vaccine
3. Reimmunization of those previously vaccinated

MAJOR OUTCOMES CONSIDERED

- Rate of meningococcal disease among vaccinated populations
- Occurrence of outbreaks of meningococcal disease

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

- I. Evidence obtained from at least 1 properly randomized, controlled trial.
- II-1. Evidence obtained from well-designed, controlled trials without randomization.
- II-2. Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than 1 center or research group.
- II-3. Evidence obtained from multiple time series with or without intervention. Dramatic results in uncontrolled experiments, such as the results of the introduction of penicillin treatment in the 1940s, could be regarded as this type of evidence.
- III. Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

The potential benefit and cost-effectiveness of immunizing college students with the licensed quadrivalent polysaccharide vaccine recently has been analyzed by the Centers for Disease Control and Prevention (CDC). Immunization of all freshmen living in dormitories would result in administration of 300,000 to 500,000 doses each year and is estimated to prevent 15 to 30 cases of meningococcal disease and 1 to 3 deaths each year. The cost per case prevented would be between \$671 000 and \$1.8 million and that for deaths prevented would be between \$7 million and \$20 million. This cost analysis suggests that, from a societal perspective, immunization of college students is not likely to be cost-

effective. However, it does not take into account the personal tragedy of families experiencing the loss of children; consequences of severe sequelae, such as loss of a limb, neurologic disabilities, and hearing loss; public anxiety; and disruption of campus life after the occurrence of 1 or more cases of severe meningococcal disease.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review
Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Guideline recommendations were reviewed by relevant American Academy of Pediatrics (AAP) committees and sections.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The evidence grades (I-III) are repeated at the end of the Major Recommendations.

College students, particularly freshmen living in dormitories, are at moderately increased risk of meningococcal disease, compared with other persons of similar age. The disease, however, can be life-threatening, and 60% or more of cases can be prevented with the currently available quadrivalent polysaccharide vaccine against serogroups A, C, Y, and W-135. In addition, adverse reactions generally are mild, and serious reactions are rare. On the basis of these considerations, the Academy recommends the following:

1. Students entering college, especially those who will be living in dormitories, and their parents should be informed during routine prematriculation medical visits about the increased risk of meningococcal disease and potential benefits of immunization as well as limitations of the vaccine, primarily the lack of protection against serotype B meningococcal disease. (Evidence Grade II-2)
2. Students should consider immunization in view of the risk of disease and potential benefits of immunization. Although the risk is greatest for college freshmen who will be living in dormitories, college upperclass persons and graduate students living in dormitories also may choose to be immunized. (Evidence Grade II-2)
3. Physicians and other health care professionals providing care to college students, including those who will be matriculating within the following year and who may live in dormitories, should vaccinate students who wish to be immunized or refer them to an easily accessible source where the vaccine is available. (Evidence Grade II-2)
4. College and university health services should inform students of the risks of meningococcal disease and potential benefits of immunization, particularly before and after matriculation, and should facilitate the implementation of related educational programs and immunization services, including on-site availability of meningococcal vaccine. (Evidence Grade II-2)

5. Immunization is not recommended for students who will not be living in dormitories because their risk of meningococcal disease is not increased relative to that of persons of similar age in the general population. However, immunization is not contraindicated for these students and vaccine may be given if requested. (Evidence Grade III)
6. Routine reimmunization of college students who were immunized as freshmen is not indicated. However, for those who were immunized 3 to 5 years previously and are or will be in high-risk circumstances, such as travel to geographic areas with hyperendemic or epidemic meningococcal disease, reimmunization should be considered. (Center for Disease Control and Prevention [CDC], 2000) Similarly, vaccine should be considered for matriculating freshmen who were immunized 3 or more years previously and will be living in dormitories. (Evidence Grade III)

Evidence Grading

I. Evidence obtained from at least 1 properly randomized, controlled trial.

II-1. Evidence obtained from well-designed, controlled trials without randomization.

II-2. Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than 1 center or research group.

II-3. Evidence obtained from multiple time series with or without intervention. Dramatic results in uncontrolled experiments, such as the results of the introduction of penicillin treatment in the 1940s, could be regarded as this type of evidence.

III. Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Prevention of meningococcal disease and its sequelae

POTENTIAL HARMS

Adverse reactions associated with meningococcal vaccine are usually mild, consisting primarily of pain and redness at the injection site for 1 or 2 days or transient fever. Severe adverse events, including allergic and neurologic events (e.g., seizures, anesthetics, and paresthesias) are rare, occurring in less than 0.1/100,000 vaccine doses.

QUALIFYING STATEMENTS

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The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Academy of Pediatrics, Committee on Infectious Diseases. Meningococcal disease prevention and control strategies for practice-based physicians (Addendum: recommendations for college students). Pediatrics 2000 Dec; 106(6): 1500-4. [26 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2000 Dec

GUIDELINE DEVELOPER(S)

American Academy of Pediatrics - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Pediatrics

GUIDELINE COMMITTEE

Committee on Infectious Diseases

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline. It supplements the following information previously published by the American Academy of Pediatrics:

1. American Academy of Pediatrics (AAP). Meningococcal infections. In: Pickering LK, ed. 2000 Red Book. Report of the Committee on Infectious Diseases. 25th ed. Elk Grove Village, IL: American Academy of Pediatrics, 2000. pp. 396-401.

2. American Academy of Pediatrics, Committee on Infectious Diseases and Canadian Paediatric Society, Immunization Committee. Meningococcal disease prevention and control strategies for practice-based physicians. *Pediatrics* 1996;97:404-12.

AAP Policies are reviewed every 3 years by the authoring body, at which time a recommendation is made that the policy be retired, revised, or reaffirmed without change. Until the Board of Directors approves a revision or reaffirmation, or retires a statement, the current policy remains in effect.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Academy of Pediatrics \(AAP\) Policy Web site](#).

Print copies: Available from AAP, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- American Academy of Pediatrics (AAP). Meningococcal infections. In: Pickering LK, ed. 2000 Red Book. Report of the Committee on Infectious Diseases. 25th ed. Elk Grove Village, IL: American Academy of Pediatrics, 2000. pp. 396-401.
- American Academy of Pediatrics, Committee on Infectious Diseases and Canadian Paediatric Society, Immunization Committee. Meningococcal disease prevention and control strategies for practice-based physicians. *Pediatrics* 1996;97:404-12.

Print copies: Available from AAP, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on October 17, 2001. The information was verified by the guideline developer as of December 5, 2001.

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